

IN THE CLAIMS:

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Please cancel claims 5, 6 and 7 without prejudice or disclaimer to the subject matter claimed therein.

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APC  
1. (AMENDED) An alloy comprising (1) Sn, (2) at least one of Ti and Zr, and (3) at least one of Nb and Ta; wherein said alloy having shape memory and superelasticity characteristics at human body temperature.

REMARKS

**I INTRODUCTION**

Claims 1-16 are pending and stand rejected. Of those, claims 5-7 have been canceled without prejudice or disclaimer of the subject matter claimed therein. Claim 1 has been amended to include the recitation of each of claims 5, 6 and 7. Since the amendment does not introduce subject matter not already before the Examiner, Applicants respectfully submit that the amendment does not necessitate a new search. Entry of the amendment and reconsideration on the merits is respectfully requested.

**II THE ANTICIPATION REJECTION OF CLAIMS 1-7, 9-11 and 16 SHOULD BE WITHDRAWN**

Claims 1-7, 9-11 and 16 stand rejected under 35 U.S.C. § 102(b) over the English language translation of the abstract of JP 10-219375 A to Araya et al. ("Araya"). Applicants respectfully disagree with the grounds of this rejection.

As amended herein, Claim 1 recites an alloy having Sn, at least one of Ti and Zr and at least one of Nb and Ta. Claim 1 also recites an alloy having shape memory and superelasticity characteristics at human body temperature. FIGS. 4, 5 and 6 of the specification illustrate shape memory behavior of alloys having different amounts of each of Nb and Sn. Specifically, FIGS. 4 and 5 demonstrate that samples of 14Nb4Sn, 16Nb4Sn and 17Nb4Sn recovered their shape after a shape memory test while samples of 18Nb4Sn and 20Nb4Sn did not (see also, specification at the paragraph bridging pages 14 and 15.) FIG. 7 shows that the samples with higher content of Nb or Sn showed no shape memory (see also the paragraph bridging pages 15 and 16.)

Araya does not disclose or suggest an alloy having shape-memory and super elasticity as claimed in claim 1. In contrast to the claimed subject matter, Araya discloses a  $\beta$ -titanium alloy. Specifically, at paragraph 5 of the English Language translation of Araya, the reference discloses:

this invention is obtained by directing one's attention to adding Ta (tantalum) the specified quantity every collectively with Nb to titanium, as a result of artificers' inquiring zealously about a *beta titanium alloy*, in order to solve the above mentioned technical problem.

(Emphasis added.)

As explained in Applicants' response to Office Action mailed June 27, 2001,  $\beta$ -titanium alloy have age hardening and solid-solubility properties. In contrast, claim 1 recites an alloy having shape memory and superelasticity characteristics which are neither disclosed nor suggested by Araya.

For at least these reasons, it is respectfully submitted that claim 1, as amended herein, is not anticipated by Araya.

Each of claims 2-4, 9-11 and 16 depends from independent claim 1, which as discussed, is neither anticipated nor obvious over Araya. Applicants respectfully submit that each of claims 2-4, 9-11 and 16 is patentable at least by the virtue of its dependence on claim 1. For this reason additional reason for patentability of each of claims 9-11 and 16 will not be proffered here.

Applicants respectfully request reconsideration and withdrawal of the anticipation rejection over Araya.

### **III THE OBVIOUSNESS REJECTION OF CLAIMS 8 AND 12-15 SHOULD BE WITHDRAWN**

Each of claims 8 and 12-15 stands rejected as allegedly obvious over Araya in view of secondary references. Specifically, claim 8 stands rejected as allegedly unpatentable over Araya in view of U.S. Patent No. 5,429,501 to Farzin-Nia et al.; claim 12 stands rejected as allegedly unpatentable over Araya in view of U.S. Patent No. 6,127,597 to Beyar et al.; claim 13 stands rejected as allegedly unpatentable over Araya in view of U.S. Patent No. 4,795,458 to Regan; claim 14 stands rejected as allegedly unpatentable over Araya in view of U.S. Patent No. 5,215,105 to Kizelshteyn et al. and claim 15 stands rejected as allegedly unpatentable over Araya in view of U.S. Patent No. 5,551,871 to Besselink et al.

Each of claims 8 and 12-15 depends from claim 1 which, as discussed above, is neither disclosed nor suggested by Araya.

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U.S. Application No. 09/710,430  
Attorney's Docket No. 11151/5

For at least this reason, Applicants respectfully submit that each of claims 8 and 12-15 are patentable over Araya as combined with the cited secondary reference. Accordingly, Applicants will not address the Examiner's reliance upon the cited secondary references.

Reconsideration and withdrawal of this rejection is requested.

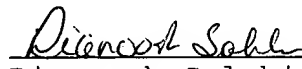
**CONCLUSION**

It is therefore respectfully submitted that claims 1 and 8-16 are now in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

The Examiner is invited to contact the undersigned attorney if a telephonic communication is believed to be helpful in advancing the examination of the present application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. §1.16 or §1.17 to Deposit Account No. 11-0600.

Respectfully submitted,

  
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**ATTACHMENT TO RESPONSE TO Office Action**

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wherein said alloy having shape memory and superelasticity characteristics at human body temperature.